REMARKS

Claims 1-5, 7, 9-12 and 14 are pending in this application. Claims 6, 8 and 13 have been previously canceled. Claims 1, 4, 5, 7, 9, 11, 12 and 14 are amended. Reconsideration of the rejections in view of these amendments and the following remarks is respectfully requested.

Objections to Claims

Claims 1 and 14 were objected to due to informalities.

Advisory Office Action indicates that the objections have been overcome.

Rejections under 35 USC §112, Second Paragraph

Claims 11 and 14 were rejected under 35 USC §112, second paragraph, as being indefinite because the claims are allegedly indefinite.

Advisory Office Action indicates that the rejections have been overcome.

Rejections under 35 USC §102(b)

Claims 1-6 and 8 were rejected under 35 USC §102(b) as being anticipated by Shimizu (U.S. Patent No. 4,824,006).

Claim 1 has been further amended to recite "forming a two-dimensional paste pattern on a first joining surface of the paste-applied body with a drawn paste line, said two-dimensional pattern including a plurality of radially arranged segment lines."

In the Advisory Action, the Examiner alleged: "Looking at figure 7 of Shimizu, it is apparent that the rectangular design of paste necessarily entails applying four segments, one for each side of the rectangle which meets the proposed claim limitation." Fig. 7 of Shimizu, however, does not show such a rectangular design of paste. This allegation appears to be based on the misunderstanding of Fig. 7. Shimizu describes about Fig. 7 as follows:

> FIG. 7 shows another method for confirming the contact height of the needle.
>
> In this embodiment, a second needle 34 is provided to contact with the conductive surface 33 in the package 11, and a battery 35 and an LED 36 are connected in series between needles 2 and 34. The contact of the needle 2 with the conductive surface 33 is detected by observing lighting of the LED 36.

(Column 4, lines 32-39). If the needle 2 does not linearly follow the conductive surface 33, the contact of the needle 2 with the conductive surface 33 cannot be detected by observing lighting of the LED 36. Thus, Fig. 7 shows an embodiment where the needle 2 linearly follows the conductive surface 33.

As discussed in Applicant's previous response, Shimizu discloses a die bonding apparatus which is suitable for use especially in die bonding of an elongated pellet to package. In Shimizu, the apparatus has paste supply means having a needle for supplying paste onto a package to secure a semiconductor pellet, driving means for moving the paste supply means in the directions of X, Y and Z, respectively, follow

up means movable up and down for causing the tip of the needle to follow the contour of the paste application surface of the package, and support means for supporting the paste supply means through the follow up means (column 1, lines 29-44).

Thus, Shimizu focuses the discussion on the uniformity of paste application width and thickness of a single segment, but it does not teach or suggest "forming a two-dimensional paste pattern on a first joining surface of the paste-applied body with a drawn paste line, said two-dimensional pattern including a plurality of radially arranged segment lines."

For at least these reasons, claim 1 patentably distinguishes over Shimizu. Claims 2-5, directly or indirectly dependent from claim 1, also patentably distinguish over the cited reference.

Claim 14 is rejected under 35 USC §102(b) as being anticipated by Kawabe et al (U.S. Patent No. 5,985,069).

Advisory Office Action indicates that this rejection has been overcome.

Rejections under 35 USC §103(a)

Claim 9 is rejected under 35 U.S.C. §103(a) as being obvious over Shimizu.

Claim 9, indirectly dependent from claim 1, also patentably distinguishes over the cited reference for at least the same reason discussed above.

In view of the aforementioned amendments and accompanying remarks, claims, as amended, are in condition for allowance, which action, at an early date, is requested.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicant's undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, Applicant respectfully petitions for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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5. (Currently Amended): A paste pattern forming method according to ~~claim~~ Claim 1 or 2, wherein said paste-applied body is a lead frame, and said paste is an adhesive for die bonding.

6. (Canceled)

7. (Currently Amended): A paste pattern forming method according to Claim ~~6~~ 1, wherein said pattern is a figure in a radial form.

8. (Canceled)

9. (Currently Amended): A paste pattern forming method according to ~~claim 6~~ Claim 1, wherein at least one segment line is formed of two drawn lines.

10. (Previously Amended): A paste pattern forming method according to Claim 9, wherein at least one segment line is formed while moving any of said paste-applied body, said nozzle and said paste traveling in two paths, of which a first path is in one direction and a second path is in the opposite direction tracing the first path.

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended): A method of applying a paste on a paste-applied body, comprising the steps of:

forming a two-dimensional paste pattern on a first joining surface of the paste-applied body with a drawn paste line, said two-dimensional pattern including a plurality of radially arranged segment lines; and

placing on the paste pattern a second joining surface of a chip member to be bonded,

wherein no bubbles are left in the first and second joining surfaces when the first and second joining surfaces are bonded to each other.

2. (Previously Amended): A paste pattern forming method according to Claim 1, wherein said paste line is drawn by using a nozzle, the paste, a paste reserving container, and paste supply means.

3. (Previously Amended): A paste pattern forming method according to Claim 2, wherein said paste is continuously discharged from said nozzle while the paste line is being drawn.

4. (Currently Amended): A paste pattern forming method according to ~~claim~~ Claim 2, wherein the paste line is drawn while moving any of said paste-applied body, said nozzle and said paste.

11. (Currently Amended): A paste pattern forming method according to ~~claim~~ Claim 10, wherein ~~drawing~~ said two-dimensional paste pattern is formed starting and ending on the same point of said segment line.

12. (Currently Amended): A paste pattern forming method according to ~~claim~~ Claim 1 or 2, wherein said drawing pattern is formed such that the start and end points of drawn lines are positioned other than the ends of said drawing pattern.

13. (Canceled)

14. (Currently Amended): A method of uniformly applying a paste, comprising the steps of:

forming a pattern of a paste line on a first surface of a paste-applied body; and

placing on the paste pattern a member with a second surface, thereby sandwiching the paste pattern with the first surface and the second surface,

wherein said pattern is open in entire radial direction, and

wherein the paste is spread over entire area between the first surface and the second surface leaving no bubbles in the paste.